BY ORDER OF THE COMMANDER
913TH AIRLIFT WING

913th AIRLIFT WING INSTRUCTION 91-206

15 March 1996

Safety

BIRD AIRCRAFT STRIKE HAZARD (BASH) PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 91-2. It establishes procedures and responsibilities for an aircraft bird strike reduction program. It applies to all Air Force Reserve units and members who plan, support, or are engaged in flying operations at Willow Grove Air Reserve Station (ARS).

1. Implementation: This instruction creates a Bird Hazard Working Group (BHWG) to cope with the bird hazards associated with low level operations and the airfield being located in a migratory pattern.

1.1. The office of primary responsibility (OPR) for the working group will be the 913th Airlift Wing Flight Safety Officer. The working group will be chaired by the commander, 913th Airlift Wing, or designated representative when the commander is not available.

1.1.1. The following agencies comprise and will be represented at the Bird Hazard Working Group: Naval Air Station Joint Reserve Base Willow Grove (NASJRBWG) Aviation Safety, Willow Grove ARS units including the 111th Fighter Wing Safety, 913th Airlift Wing Safety, 913th Operations Group, 913th Support Group, 913th Civil Engineer and 327th Airlift Squadrons.

1.1.2. Meetings will be held quarterly in conjunction with and immediately following the 913th Airlift Wing Combined Safety Council Meeting. Agenda items will be submitted and distributed with the Safety Council Agenda. Minutes will be included with the Combined Safety Council meeting minutes.

1.2. Cooperative efforts of all airfield users will be required to conduct a successful bird hazard reduction program. The Public Works Department is responsible for grounds maintenance on the Joint Reserve Base, exclusive of the Willow Grove ARS. Navy Operations is responsible for the overall management of airfield operations, exclusive of the 913th/111th parking apron. Aviation Safety Officers provide liaison between the flying units and NASJRBWG. Flying units conduct safety briefings and ensure that bird strikes are reported through their own safety channels and to the host safety office. The reporting of bird strikes by all military components using NASJRBWG is essential to identifying and correctly assessing the hazard to aviation represented by the bird population.

2. Situation:

2.1. Local Bird Problem Areas:

2.1.1. Willow Grove ARS Storm Water Retention Basin. The basin contains sufficient water and natural cover to provide protection and food for migrating wildlife. This basin is a potential hazard to aviation because it is a natural attractor of both nesting and transitory waterfowl.

2.1.2. The cornfield north of the Willow Grove ARS boundary. The cornfield located on the other side of the north field fence is a natural attractor of numerous species of birds from small songbirds, flocks of starlings, and Canadian Geese. This field is a potential hazard to aviation.

2.1.3. Numerous areas on NASJRBWG including the storm water retention basin behind the Commander s house and the wooded area to the northwest of the runway harbor hazards to aviation.

2.1.4. Slow Routes used for formation and single ship training operations which routinely overfly known bird and wildlife sanctuaries in the course of daily operations.

2.2. Effects on the Flying Mission:

2.2.1. Bird Strikes lead to lost mission effectiveness by causing early flight termination and loss of asset to follow-on missions. Damage beyond material losses occur when lost training events must be rescheduled. Although, normally, bird strikes cause less than reportable damage to the aircraft ($ 10,000), the potential at Willow Grove for a catastrophic loss of an airframe due to impact with a large flock of small birds or several Canadian Geese is real.

2.3. Tasks and Responsibilities:

2.3.1. Wing Commander:

2.3.1.1. Chairs the BHWG meeting.

2.3.1.2. Approves and directs implementation of recommendations made by the BHWG.

2.3.2. Operations Group Commander (OGC) (Or person acting in absence of the OGC):

2.3.2.1. Will declare, disseminate, and terminate bird watch conditions for 913AW flight operations.

2.3.2.2. Issue specific guidance for aircrews and the Supervisor of Flying (SOF) on procedures to be followed under various bird watch conditions.

2.3.2.3. Issue specific guidance to the command post concerning actions required to implement this program.

2.3.2.4. Make operational changes to avoid areas and times of known hazardous bird concentrations, mission permitting. Considers the following during periods of increased bird activity.

2.3.2.4.1. Avoid takeoffs and landings at dawn/dusk + 1 hour.

2.3.2.4.2. Limit or prohibit formation takeoffs and landings.

2.3.2.4.3. Reschedule local training or transition elsewhere.

2.3.2.4.4. Raise altitude enroute to low-level or training areas.

2.3.2.4.5. Limit time on low-level routes to minimum for training requirements.

2.3.2.4.6. Select low-level routes or training areas based on bird hazard data from the Fish and Wildlife Service or the BASH team (such as the Bird Avoidance Model or Low-Level Route Analysis).

2.3.2.4.7. Split formation prior to recovery.

2.3.2.4.8. Discontinue formation instrument approaches.

2.3.2.4.9. Make full-stop landings.

2.3.3. Logistics Group Commander:

2.3.3.1. Issues specific guidance to personnel for the reporting of all discovered bird strikes on aircraft to quality control and flight safety.

2.3.3.2. Issues procedures for the preservation of non-fleshy (feathers, feet or beaks) bird remains if discovered on aircraft. Even the smallest fragment of feather (down) should be forwarded to wing safety for identification.

2.3.4. Safety (SE):

2.3.4.1. Monitors base-wide compliance with AFI 91-202, AFI 91-204 and reports all bird-aircraft strikes and hazards per AFIs 91-202, 91-204, and this program.

2.3.4.2. Reports on BASH and includes BHWG recommendations and actions in the agenda and minutes of the wing s quarterly safety meetings.

2.3.4.3. Disseminates BASH data to BHWG and flying units.

2.3.4.4. Provides the BHWG with the current BASH guidance from higher headquarters, the BASH team, the US Fish and Wildlife Service, and other agencies.

2.3.4.5. Maintains a current bird activity map for Willow Grove ARS.

2.3.4.6. Provides any additional information on migratory, local, and seasonal bird activities through contact with the US Fish and Wildlife Service, Audubon Society, local ornithologists, and other agencies.

2.3.4.7. Monitors bird activity and strike statistics and advises the chairperson of the working group when meetings are scheduled.

2.3.4.8. Coordinates with aircrews and maintenance personnel for collecting of non-fleshy remains after strikes. Sends any salvaged bird strike remains (feathers, beaks, and feet only) to the HQ AFSA BASH team for identification. When sending such remains for identification, include the information listed on AF Form 853, **Non-damaging Bird Strike Report**.

2.3.4.9. Establishes and maintains a continuity folder with any pertinent BASH data and information to assure continuity of knowledge with personnel turnover.

2.3.4.10. Establishes a bird hazard awareness program in conjunction with the squadron flying safety officer, to include films, posters, and information on local bird hazards and reporting procedures.

2.3.5. Standardization and Evaluation (DOV):

2.3.5.1. Reviews with 327AS/DO, 327AS/DOXT and 913 OG/CC all proposed low-level routes and training areas or changes to existing routes/areas for BASH potential.

2.3.5.2. Monitors on a regular basis, aircrew preflight briefings to ensure existing BASH condition is briefed.

2.3.6. Squadron Flying Safety Officer (FSO):

2.3.6.1. Brief aircrews to promptly report all bird strikes and hazardous conditions per this directive.

2.3.6.2. Ensure the 913 OG/CC or 327AS/DO advise the flight scheduler of the daily bird condition. The scheduler will post the bird condition on a status board and inform all aircrews of any change in status.

2.3.6.3. Ensure that the current bird activity data is available and briefed for each planned phase of flight.

2.3.6.4. Ensure that an adequate supply of BASH report forms are readily available for aircrews.

2.3.6.5. Brief aircrews on seasonal bird hazards. Movies, articles, and other information will be used, as appropriate, to maintain awareness.

2.3.7. WGARS Base Civil Engineer (BCE):

2.3.7.1. Provides a natural resources representative to the BHWG to monitor and advise the group of environmental modification.

2.3.7.2. Develops procedures for removal or control of bird attractants.

2.3.7.3. Initiates surveys and writes environmental impact assessments and statements as required.

2.3.7.4. Conducts BASH surveys.

2.3.7.5. Corrects environmental conditions that increase BASH potential.

2.3.7.6. Uses land management practices that reduce BASH potential.

2.3.7.7. Incorporates the following practices into the Integrated Natural Resource Plan.

2.3.7.7.1. Managing Grass Height. Maintain a uniform grass height between 7 and 14 inches. Determine mowing frequency as needed to maintain height requirements. Coordinate mowing with periods of low flight activity. Cut grass before it goes to seed to discourage seed eating birds from utilizing the airfield. As a rule, do not permit grass to exceed 14 inches as high grass will attract some bird species and rodents that, in turn, attract raptors (birds or prey). Obtain assistance in herbicide selection for weed control, appropriate grass seed selection, fertilization, and erosion control vegetation from the US Soil Conservation Service or the Agricultural Extension Service.

2.3.7.7.2. Controlling Broad-leaved Weed. Keep broad-leaved weeds to a minimum on the airfield.

2.3.7.7.3. Removing Dead Birds and Animals. Remove dead birds or other animals from the field to avoid attracting carrion birds. Forward non-fleshy remains, which may be caused by collision with aircraft, to flight safety for identification.

2.3.7.7.4. Controlling Pests. Invertebrates and rodents provide important food sources for

many birds. Civil Engineering Pest Management should periodically survey and reduce these pests when required. Control insects, earthworms, rodents, etc., by using insecticides and rodenticides under the supervision of the base Pest Management with EPA-approved methods.

2.3.7.7.5. Maintaining Drainage Ditches. Regularly inspect ditches and keep them clear and obstacle free. Maintain ditch sides as steeply as possible-minimum slope ratio of 5:1 to discourage wading birds and emergent vegetation.

2.3.7.7.6. Eliminating Standing Water. Coordination with the Army Corps of Engineers and the appropriate State environmental office is required prior to altering wetlands. Eliminate small ponds or puddles and some large bodies of standing water to reduce attractiveness to birds. Low spot and ditch maintenance are essential.

2.3.7.7.7. Employing Erosion Control Vegetation. Use vegetation that is appropriate for the region and supports BASH reduction philosophy (that is, do not control erosion using plants which produce seeds at heights below 14 to 18 inches).

2.3.7.7.8. Bird-proofing buildings and hangars. Pigeons, sparrows, and starlings frequently occur in buildings and hangars. Denying access by screening windows, closing doors, and blocking entry holes is most effective.

2.3.7.7.9. Control Procedures for Specific BASH Animals:

2.3.7.7.9.1. Waterfowl (Ducks). A distinction must be made between resident and migrating populations.

2.3.7.7.9.1.1. Waterfowl are attracted to an area to breed or feed. Ponds, lakes, ditches, etc., may attract these birds, particularly if these areas contain emergent or submerged vegetation for feeding, nesting, or shelter. Making ditch and pond banks steeper and removing vegetation will reduce waterfowl numbers. When possible, drainage of water sources should be accomplished. The grain field north of the base also attracts waterfowl in large numbers and should be eliminated. Pyrotechnics, gas cannons, and hawk kites/balloons are all excellent control techniques. Resident birds are most active at dawn and dusk, moving at low altitudes to and from 913 AWI 91-206, 15 March 1996, 7 feeding areas. Avoid flying near wildlife refuges, or any ponds, lakes or rivers with known waterfowl concentrations during these times.

2.3.7.7.9.1.2. Migrating waterfowl are particularly dangerous to flight safety due to the large number and generally higher altitude of the birds. Migrating birds are most active from sunset through midnight, with numbers decreasing in the early morning hours. October and November are most hazardous. Avoidance of flying during the evening hours is generally safest. The base safety office keeps updated Bird Avoidance Model (BAM) data from the BASH Team at HQ AFSA for information and planning purposes and uses them to compare low-level routes.

2.3.7.7.9.1.3. Canada Geese: Geese in and around the airfield represent our most serious hazard to aircraft operations. Geese have used the Air Force storm water retention basin and the storm water retention area behind the Navy Commanding Officer's residence for nesting during the summer and as a resting area during the

winter. Removal of nesting birds reduces the attraction to migrating birds, but does not prevent birds from using the basins. Since violent types of goose removal may be controversial, non-violent means of preventing geese from using the basins is essential. Installment of a snow fence at the basin water line has proven effective in the past preventing geese from nesting. Wire or mono-filament grids placed from six inches below the water line to a few feet above the water surface are effective in discouraging geese from using standing water and may be acceptable on the NAS and Air Force storm water retention basins. Active dispersal of geese can be effective. However, dispersal efforts must be initiated before the geese become accustomed to using the area or nesting begins.

2.3.7.7.9.2. Raptors. (Hawks, Falcons, Kites, Eagles, Vultures). These birds can be particularly hazardous to aircraft because of their size and widespread distribution over bases and low-level areas. Raptors use thermals to their advantage to search for prey. These birds become active during mid-morning and remain aloft until late afternoon. Avoid areas with thermal-generating terrain such as ridge lines, rolling hills, and near water. Landfills are particularly attractive to soaring raptors.

2.3.7.7.9.3. Sandpipers and Shorebirds. The most significant hazard from these birds occurs when large numbers flock in tight groups, particularly during migration and along coastlines. Flocks in coastal areas can be hazardous and should be avoided.

2.3.7.7.9.4. Gulls. These birds represent the most significant hazard to aircraft worldwide. Due to their omnivorous feeding habits and preference for flat, open areas to rest, they are commonly found on airfields. Gulls are most active just after sunrise and before sunset as they move to and from feeding areas. Maintenance of grass height between 7 and 14 inches is critical in reduction of gull numbers. Even with this in effect, gulls may inhabit the airfield, particularly during inclement weather. Persistent harassment using pyrotechnics and bio-acoustics is necessary to discourage these birds. Do not allow these birds to establish a habit of using the airfield to feed, breed, or rest.

2.3.7.7.9.5. Terns. These are fish-eating, gull-like birds common in coastal areas and on some major river systems and lakes. Avoid flying near areas where these birds may be active, such as nesting colonies or piers in coastal areas.

2.3.7.7.9.6. Pigeons and Doves. These birds are seed-eaters and are attracted to seed-producing weeds, grasses, and shrubs. Open areas or bare spots are attractive as resting or feeding sites. Pyrotechnics can be effective in frightening these birds. Proper grass-height management, irrigation, and mowing before grass goes to seed will limit the number of pigeons and doves on the field. Pigeons frequently occur in structures such as hangers. Netting, shooting, trapping, poisoned baiting, and especially toxic bird perches (such as Rid-A-Bird) can drastically reduce their numbers in these structures.

2.3.7.7.9.7. Owls. Most owls are nocturnal and attracted to rodents as a food source. Rodent control may be necessary on the airfield. Proper management of airfield grass will limit their numbers. Remove perch sites such as unnecessary fence posts and dead trees to limit the number of owls. Avoid over-flying landfills at night to reduce hazards

from owls.

2.3.7.7.9.8. Goatsuckers (Nighthawks, Whip-poor-wills, etc.). These birds are active at sunset when insects are abundant. Little can be done to limit their numbers other than insect control. Avoid flying at times when these birds are abundant, particularly near lakes, streams, or other areas with large insect populations.

2.3.7.7.9.9. Swallows and Pratincoles. These birds eat insects in flight and are commonly found above airfields. Fortunately, swallows are adept at avoiding aircraft, but if they present a problem, measures can be taken for their dispersal. Insect control will reduce the swallow numbers and discouragement of nesting will further decrease numbers. Wash mud nests from eaves, culverts, etc., with a hose as the birds begin nesting. Nesting in banks can be discouraged by harassing the birds as they work on building. If swallows are noted resting on runways or taxiways, use pyrotechnics to disperse them.

2.3.7.7.9.10. Crows and Ravens. These omnivorous birds are common in open areas and around airfields. These birds may occur in large flocks, particularly at sunset as they return to roost sites. Proper grass-height management will reduce population numbers. Remove any known roost sites or thin individual roost trees. Bio-acoustics and pyrotechnics can be used to frighten these birds if they occur on the field.

2.3.7.7.9.11. Blackbirds, Grackles, Cowbirds, and Starlings. These birds can be particularly hazardous because they frequently occur in huge flocks, sometimes in the millions. Blackbirds and starlings are attracted to flat, open areas to feed, rest, or stage/pre-roost. Maintenance of grass height between 7 and 14 inches is the best means of reducing airfield blackbird and starling numbers. Do not allow seed-producing plants to grow on the airfield. Roost sites must be eliminated near the flightline. Selective pruning or removal of roost trees, brush, or cattails must be accomplished if blackbirds and starlings are roosting on base. Blackbirds and starlings respond well to an intense frightening program using bio-acoustics and pyrotechnics. Other methods should be used to supplement this program as necessary. Starlings are not federally protected and may be killed without permits. Permits are required for other species. Occasional shooting of birds will reinforce other frightening techniques. Poisoning or trapping may also be considered with U.S. Fish and Wildlife Service assistance recommended. If these birds occur in hangars, toxic bird perches are recommended to eliminate the problem. Avoid at all costs, flying near known blackbird and starling roosts, especially at sunrise, sunset and during the spring and fall migration. Huge roosting colonies may also be present during winter months in southern states.

2.3.7.7.9.12. Meadowlarks. These birds occur on nearly every airfield and are attracted to grasslands and low weeds. Eliminate broad-leafed weeds and maintain grass height at 7 to 14 inches. Elimination of suitable perching sites, such as fence posts and brush, will also aid in reduction. Pyrotechnics can be used, but meadowlarks usually only fly a short distance before settling down again. Persistence is the key to success.

2.3.7.7.9.13. House Sparrows. These birds are not frequently struck by aircraft, but are common pests around structures. House sparrows often nest in hangars and dense

shrubs and trees. These birds are not protected by law and may be killed without permit. Toxic bird perches may be used to remove House Sparrows from hangars or other structures. Frightening techniques are usually ineffective against these birds.

2.3.7.7.9.14. Warblers. A wide range of warbler species thrive in a variety of habitats. Most prefer shrubs and trees where they feed, breed, or rest. These habitat types should not be allowed on the airfield and warbler strikes will be rare as a result. Migrating warblers may be struck at night, especially as, they fly south in fall. Fortunately, these birds are very small and rarely cause damage.

2.3.7.7.9.15. Mammals. While concern is mostly centered on birds, several mammalian species also pose threats to flight operations and must be considered.

2.3.7.7.9.15.1. Deer. These species are generally browsers, preferring broad-leaf weeds, shrubs, and trees. Do not allow growth of these plants on the airfield. The presence of these plants in surrounding areas will serve to draw these animals to the airfield. Tall fences (up to 15 feet) can discourage these animals from entering airfields, but due to expense, should only be used in urgent cases. On-base hunting will also discourage the presence of deer species. Pyrotechnics should be used to frighten these animals when they do occur on the airfield.

2.3.7.7.9.15.2. Foxes. These animals are attracted to airfields by rodents, rabbits, and other food sources. Dens may be found in banks, culverts, or other suitable areas. Rodent control will reduce the numbers of these animals. Pyrotechnics can be used to frighten these species.

2.3.7.7.9.15.3. Rabbits and Hares. In addition to direct hazards to aircraft, these animals often attract raptors. Proper grass management will reduce the number of these animals on airfields. Occasional extensive rabbit hunts on the field can reduce populations for several years. Poisoning can also be effective for reduction of populations. Permits may be required.

2.3.7.7.9.15.4. Rodents. These animals attract raptors. Control by maintaining a uniform turf at the proper heights. Rodenticides may be used in some cases.

2.3.8. Navy Airfield Management.

2.3.8.1. The authority to declare 913 AW bird watch conditions is vested with the 913 AW Operations Group during normal C-130 flight operations. However, the 913 AW OGC will base it s declaration of a bird watch condition on information relayed by local airborne aircraft, observations made by and/or relayed to Navy base operations by Willow Grove NAS JRB tower operators, and observations made by Navy base operations or safety personnel.

NOTE: The agency declaring or recommending the condition should downgrade or cancel bird watch conditions, commensurate with updated information.

2.3.8.2. Navy ATC should appoint a bird scare group. This group should be activated when birds on the airfield create hazardous conditions. The bird scare group should, as a minimum, have immediate access to bio-acoustic and pyrotechnic equipment for bird dispersal. This equipment should be stored where access is readily available.

2.3.8.2.1. Bio-acoustics. Bio-acoustics are taped distress or alarm calls of actual birds.

The equipment required to adequately project these calls includes a cassette tape deck mounted in a vehicle and a speaker mounted on its roof. Special care must be taken to play the tape in short intervals to prevent habituation by the birds. Play the tape for 20-30 seconds and then pause briefly. Repeat this procedure several times if necessary. The birds should respond by taking flight or becoming alert. These calls are effective for gulls, blackbirds, starlings, cowbirds, grackles, ravens, crows, and some shorebirds. Pyrotechnics should be used in conjunction with bio-acoustics to enhance complete dispersal.

2.3.8.2.2. Pyrotechnics. Pyrotechnics are 12-gauge scare cartridges that produce a secondary explosion to scare the birds from the area. The scare cartridges are launched from either a shotgun or a pyrotechnic pistol (M-8 Very Pistol) with a steel sleeve insert to modify the gun to the 12-gauge size. Pyrotechnics are effective for dispersing most bird species and should also be used for deer, and foxes.

2.3.8.2.3. Gas Cannons. Gas cannons may also be used. These devices should be operated, especially at dawn and dusk, as birds come in to feed or roost. Cannons must be relocated frequently to avoid habituation problems. These devices are very effective on waterfowl, pheasants, and other game birds and can also be used for gulls and blackbirds.

2.3.8.2.4. Depredation. Birds must be killed occasionally as a reinforcement of other methods. Domestic pigeons, European starlings, and house sparrows can be killed without a permit. Most other species require federal and state permits. Airfield Management will contact the US Fish and Wildlife Service and state wildlife agency for permits and assistance in this area.

2.3.8.2.5. Other Devices and ingenuity are encouraged in the bird scare program. Other devices to consider are radio-controlled model aircraft, hawk kites, modeled decoys in distressed positions, or falconry. Contact the BASH team at HQ AFSA for advice in this area.

2.3.8.2.6. Known ineffective bird control methods. Ultrasound, rubber snakes, stuffed owls, rotating/flashing lights, loud music, and other such devices have not proven effective and should not be used.

2.3.8.2.7. Navy personnel should notify security police when significant bird scare activities will be necessary on the airfield.

2.3.8.3. Navy personnel should conduct a daily airfield survey. Dead birds should be removed and forwarded to aviation safety for identification. Bird sighting surveys should be filled out and sent to aviation safety as appropriate.

2.3.9. Navy Air Traffic Control (ATC):

2.3.9.1. Report observed bird activities to Navy base operations so base flying units can be alerted to the increased hazard.

2.3.9.2. Navy personnel should issue bird advisories to aircrews as required.

2.3.9.3. Navy ATC should provide airfield management with immediate access to the runway and taxiways during bird watch conditions MODERATE or SEVERE or as required.

2.3.9.4. Navy ATC identifies radar targets as possible bird activity when appropriate to provide warning to pilots.

2.3.9.5. Navy ATC recommends missed approaches or delayed takeoffs when possible bird hazards appear on ATC radar.

2.3.10. 111th Fighter Wing. Will provide a representative to the BHWG and support the Willow Grove ARS base BASH program as appropriate. Responsibilities within the unit should mirror the responsibilities assigned to 913th Airlift Wing counterparts

2.3.11. Public Affairs (PA): 913 AW Public Affairs will provide a public information service designed to inform base personnel, dependents, and the general public of the hazards and costs of uncontrolled bird activity and the measures being taken to minimize them.

2.4. Warning Systems:

2.4.1. Constant vigilance by aircrew and tower operators is required to alert aircraft operators of the presence of large formations of birds or other animal hazards. Air Force SOFs and crews must report observed concentrations of birds and other wildlife to the Navy tower so effective countermeasures can be taken.

2.4.2. While on the Slow Routes (SR) utilized by aircraft from the Willow Grove ARS, pilots should monitor Dover AFB Approach Control using published frequencies for bird hazard conditions and airborne flock alerts. Dover s bird hazard conditions and Dover s restrictions are as follows and only serve as a guide to local operations:

2.4.2.1. LOW: There is low potential for bird strike in the local area or on the airfield. Normal operations are in effect.

2.4.2.2. MODERATE: There is increased migratory bird activity on the airfield or in the local area. Local flying is restricted to one takeoff and one termination landing between one half hour before sunrise and one and one half hour after sunrise. The same time frame exists at sunset. The local traffic pattern is closed during those hours.

2.4.2.3. SEVERE: There is very high migratory bird activity on the airfield or in the local area. Local flying is restricted to one takeoff and one termination landing and then only with Operations Group Commander approval on a “by mission” basis. Careful risk analyses must be made by the OG/CC as to the risk versus benefit of the mission.

2.4.2.4. Note : The above conditions and restrictions are for DOVER AFB ONLY and are provided solely for informational purposes. Aircraft commanders are the ultimate authority when determining acceptable risk where the safety of their aircraft and crew are concerned.

2.5. Operational Procedures:

2.5.1. SR Routes: HQ AFSA SEFW recommends that whenever possible, avoid flying local SR routes (and/or some segments of those routes) from October through April during the dawn and dusk high threat hours. When such use is unavoidable, use the following guidelines.

2.5.1.1. SR 800 and SR 805 contain several large bird sanctuaries and inland waterways that are frequented by coastal birds. The Bombay Hook National Wildlife Refuge located Northeast of Smyrna VOR, the Brigantine National Wildlife Refuge located North of Atlantic City NJ, the Barne National Wildlife Refuge located Northeast of Shipbottom NJ, and the Sandy Hook National Wildlife Refuge located South of Beach Haven NJ are flight restricted areas. Flying below 1000 AGL is prohibited in these areas. Avoidance of these areas is critical, as the altimeters used by birds can be unreliable. Additionally, the entire southern coast-

line of New Jersey is a brine marsh area frequented by hundreds of species of migratory and local birds. This area encompasses the second leg of SR 800 and is environmentally cleared to 500 feet AGL. It also encompasses the second and third legs of SR 805 and they are environmentally cleared to 300 feet AGL. Special vigilance for bird flocks is critical in these areas, especially at night. Both SR routes share the first leg between the town of Oxford and the bridge on the Elk River Northeast of the town of White Crystal Beach. The Elk River is a prime nesting area for many birds that frequent fresh, as well as, salt water areas. The coastline Northwest of Woodland Beach Delaware is heavily populated with the same type and quantity of birds found in the Bombay Hook Refuge.

2.5.1.2. SR 801 contains several large bird sanctuaries and inland waterways that are frequented by coastal birds. The Eastern Rock National Wildlife Refuge located northwest of the town of Wye Mills, the Prime Hook National Wildlife Refuge located north of the Waterloo VOR, the Brigantine National Wildlife Refuge located north of Atlantic City NJ, the Barne National Wildlife Refuge located NE of Shipbottom NJ, and the Sandy Hook National Wildlife Refuge located south of Beach Haven NJ are flight restricted areas. Flying below 1000 AGL is prohibited in these areas. Avoidance of these areas is critical, as the altimeters used by birds can be unreliable. Additionally, the entire southern coastline of New Jersey is a brine marsh area frequented by hundreds of species of migratory and local birds. This area encompasses the fourth leg of SR 801 and is environmentally cleared to 500 feet AGL. Special vigilance for bird flocks is critical in these areas, especially at night. The entire western coast of the Maryland and Delaware Peninsula has a high concentration of flying wildlife. It contains the Elk River, Sassafras River, Chester River and numerous sub-waterway systems containing fresh and salt water and are prime nesting areas for many birds.

2.5.2. Low Altitude Training and Navigation Area: Comprises most of the Northeastern US and contains numerous noise and wildlife sensitive areas. Flight below 1000 AGL is prohibited in these areas.

2.5.3. Aircrew Procedures:

2.5.3.1. Do not dive away from bird flocks. Birds will tend to collapse their wings and dive when frightened. Allow birds to maneuver away from your aircraft.

2.5.3.2. Use Pencil beam Weather Radar. Navy Test results seem to infer some species of birds will avoid the high intensity radar beam.

2.5.3.3. Use Wingtip Taxi Lights and Landing lights at night when possible. If night soaring birds can see you they will try to avoid you.

2.5.3.4. Following a bird strike, give serious consideration to aborting the mission. A takeoff or “touch and go” landing should be aborted if a bird strike occurs and the abort can safely be accomplished. Bird strike damage cannot be accurately assessed in-flight and may result in a complex airborne emergency. Only with the aircraft on the ground can maintenance personnel make accurate damage assessments. Bird strikes that appear to be minor wing dents may have caused severe internal structural damage which has rendered the aircraft unsafe for or incapable of flight.

3. Reporting Bird Strikes:

3.1. Bird strikes are reported to the 913th Airlift Wing safety office via the Non-Damaging Bird Strike Form (AF Form 853). If in the opinion of the aircraft commander, or the controlling agency (Command Post or Supervisor of Flying), the damage to the aircraft or public interest in the event could require OPREP reporting, utilize established procedures, in addition to the AF Form 853, to report the event.

3.1.1. Damaging Bird Strikes: Damaging bird strikes are defined as bird strikes to aircraft that exceed the Class C limits of $ 10,000 or a temporary partial disability. These mishaps are reported immediately via message.

3.1.2. Non-Damaging Bird Strikes (AF Form 853): Bird strikes which cause little or no damage, to the aircraft are reported to HQ AFSA for bird strike prevention purposes.

3.2. Consolidated reports are due to the HQ AFSA BASH Team by the 15th day of October and April each year. "No-strike" reports may be phoned in, but actual bird strike forms must be sent to HQ AFSA/SEFW by the due date.

4. Technical Support:

4.1. HQ AFSA/SEFW

9700 Ave. G South East

Bldg. 24499

Kirtland AFB, NM 87117-5671

DSN 246-5681/0698

Commercial (505) 846-5681/0698

FAX DSN 246-0684

4.2. US Fish and Wildlife Service:

REGION FIVE

One Gateway Center Suite 700

Newton Corner, MA 02518

4.2.1. Pennsylvania:

ExecutiveDirectorGame Commission

PO Box 1567

Harrisburg, PA 17120

4.2.2. New Jersey:

Director, Division of Fish, Game & Shell fisheries, Department of Environmental Protection CN 400 Trenton NJ, 08625

4.2.3. Delaware:

Division of Fish & Wildlife,

Dept of Natural Resources and Environmental Control

PO Box 1401

Dover DE, 19901

4.2.4. Maryland:

Wildlife Administration

Dept of Natural Resources

580 Taylor Ave

Tawes State Office Building

Annapolis MD 21401

RICHARD R. MOSS, Col, USAFR
Commander